SERVICE MANUAL

T4.80V
T4.90V
T4.100V
T4.110V
T4.80N
T4.90N
T4.100N
T4.110N

Tractor

PIN HLRT410NEHLT07707 and above

Part number 51526007

English

November 2018

© 2018 CNH Industrial Italia S.p.A. All Rights Reserved.

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.100N, T4.110N Tractor Service Manual | Publication 51526007

Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.114] Pump drives 10.2

[10.216] Fuel tanks 10.3

[10.206] Fuel filters 10.4

[10.202] Air cleaners and lines 10.5

[10.254] Intake and exhaust manifolds and muffler 10.6

[10.501] Exhaust Gas Recirculation (EGR) exhaust treatment 10.7

[10.400] Engine cooling system 10.8

[10.414] Fan and drive 10.9

[10.310] Aftercooler 10.10

[10.304] Engine lubrication system 10.11

Clutch 18

[18.100] Clutch mechanical release control 18.1

[18.104] Clutch hydraulic release control 18.2

[18.110] Clutch and components 18.3

Transmission 21

[21.114] Mechanical transmission 21.1

[21.130] Mechanical transmission external controls 21.2

[21.100] Mechanical transmission hydraulic components 21.3

[21.140] Mechanical transmission internal components 21.4

[21.112] Power shuttle transmission 21.5

[21.134] Power shuttle transmission external controls 21.6

[21.104] Power shuttle transmission hydraulic components 21.7

[21.154] Power shuttle transmission internal components 21.8

[21.160] Creeper 21.9

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

[21.162] Reverser 21.10
[21.168] Hi-Lo unit 21.11
[21.109] Transmission cooler and lines 21.12
[21.118] Transmission/Rear drive 21.13
[21.182] Differential 21.14
Four-Wheel Drive (4WD) system 23
[23.202] Electro-hydraulic control 23.1
[23.304] Four-Wheel Drive (4WD) gearbox 23.2
[23.314] Drive shaft 23.3
Front axle system 25
[25.100] Powered front axle 25.1
[25.102] Front bevel gear set and differential 25.2
[25.108] Final drive hub, steering knuckles, and shafts 25.3
[25.310] Final drives 25.4
[25.400] Non-powered front axle 25.5
Rear axle system 27
[27.100] Powered rear axle 27.1
[27.106] Rear bevel gear set and differential 27.2
[27.120] Planetary and final drives 27.3
[27.126] Spur gear and final drives 27.4
Power Take-Off (PTO) 31
[31.101] Rear mechanical control 31.1
[31.142] Front Power Take-Off (PTO) control 31.2
[31.146] Front Power Take-Off (PTO) 31.3
Brakes and controls 33
[33.202] Hydraulic service brakes 33.1
[33.110] Parking brake or parking lock 33.2

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

[33.220] Trailer brake hydraulic control 33.3
[33.204] Front axle brake 33.4
Hydraulic systems 35
[35.000] Hydraulic systems 35.1
[35.104] Fixed displacement pump 35.2
[35.204] Remote control valves 35.3
[35.100] Main lift system 35.4
[35.114] Three-point hitch control valve 35.5
[35.124] Three-point hitch hydraulic adjustment 35.6
[35.160] Front hitch controls and lines 35.7
[35.162] Front hitch cylinders and lines 35.8
Hitches, drawbars, and implement couplings 37
[37.110] Rear three-point hitch 37.1
[37.120] Rear three-point hitch linkage 37.2
[37.162] Front hitch 37.3
[37.166] Front hitch linkage 37.4
[37.130] Mid-mount implement couplings 37.5
Frames and ballasting 39
[39.140] Ballasts and supports 39.1
Steering 41
[41.101] Steering control 41.1
[41.200] Hydraulic control components 41.2
[41.216] Cylinders 41.3
Wheels 44
[44.511] Front wheels 44.1
[44.520] Rear wheels 44.2
Cab climate control 50
[50.100] Heating 50.1

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

Power shuttle transmission - General specification

Creeper unit data

Type	Ordinary gear train with spur gearing, located between the main clutch and the gearbox, up stream from the reverser Providing 44 forward speeds and 16 reverse speeds
Control	Hand lever located on left-hand side of operator

Power shuttle transmission - General specification

Transmission and range gear data

Gearbox	4 speed, constant−mesh, with synchronisers on all gears
Gearing type	Helical
Reducer	Ordinary gear train with 4 ranges for a total of 16 speeds
gearing type	Spur
Gearbox and range gear operating system	Independent, by means of lever located on right−hand side of operator
For missing data see **Clutch - General specification (18.110)**.	

Power shuttle main data

Number of driven plates in each clutch	6
Thickness of driven plates	**2.00 – 2.08 mm (0.0787 – 0.0818 in)**
Driven plate material	Sintered
Number of driving plates in each clutch	6
Thickness of driving plates	**2.00 – 2.20 mm (0.0787 – 0.0866 in)**
Driving plate material	Steel
Thickness of clutch assembly under a load of **163.1 kg (359.6 lb)**	**24.9 – 25.1 mm (0.9803 – 0.9881 in)** (1)
Clutch piston return spring (**(4)**, **Power shuttle transmission - Sectional view (21.112)**):	
number of springs for each clutch	7
spring free height	**3.30 mm (0.1299 in)**
spring height under a load of **128 kg (282.2 lb)**	**2.62 mm (0.1031 in)**
Hydraulic control valve	Mounted on the outer left−hand side of the transmission−rear−gearbox casing, comprising. 5 control solenoid valves
Power Shuttle and services transmission working pressure	**15.7 bar (227.65 psi)**
Accumulator spring (**(3)**, **Power shuttle transmission - Sectional view (21.112)**) accumulator:	
spring free length	**122 mm (4.8031 in)**
spring length under load of **33.2 – 36.6 kg (73.2 – 80.7 lb)**	**100 mm (3.937 in)**
By−pass valve spring (**(6)**, **Power shuttle transmission - Sectional view (21.112)**) by−pass valve:	
spring free length	**35.5 mm (1.3976 in)**
spring length under load of **3.8 – 4.2 kg (8.4 – 9.3 lb)**	**25.5 mm (1.0039 in)**
Filter	
Type	Paper cartridge
Location	Fixed to the pump housing on suction side
Pump	Same as used for the hydrostatic steering system (see **Pump - Technical Data (35.104)**)

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

Wiring harnesses - Electrical schematic sheet 48 SH-048_ACUSTIC_device

T4.100N With cab [HLRT410NEHLT07707 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.100V With cab [HLRT410VLHLT07235 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.110N With cab [HLRT411NAHLT03795 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.110V With cab [HLRT411VKHLT03788 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.80N With cab [HLRT480NTHLT06357 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.80V With cab [HLRT480VEHLT07196 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.90N With cab [HLRT490NVHLT07843 -]	ANZ --- APAC --- LA --- MEA --- WE
T4.90V With cab [HLRT490VAHLT07992 -]	ANZ --- APAC --- LA --- MEA --- WE

Type	Component	Connector / Link
Speaker	**H-001** - Horn (Speaker)	**X-016** - Horn negative [H-001] (87702238) **X-015** - Horn positive [H-001] (87702238)
Switch	**S-027** - MAIN TURN/LIGHTS SW (Switch)	**X-034** - Turn and lights sw [S-027] (87747425)
Connector	X-015	**X-015** - Horn positive [H-001] (87702238)
Connector	X-016	**X-016** - Horn negative [H-001] (87702238)
Connector	X-025A	**X-025A** - Cab - front lights inline (87710588)
Connector	X-025B	**X-025B** - Front lights - cab inline (87691968)
Connector	X-034	**X-034** - Turn and lights sw [S-027] (87747425)

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.100N, T4.110N Tractor Service Manual | Publication 51526007
Order the manual at mid-west-tech.com >

6020 - Automatic/manual four-wheel drive selector switch faulty

Control Module: ICU-SR

NOTE: *When the cause of the fault code has been rectified, clear the fault code and test the system for normal operation.*

Possible failure modes:

1. Bad connector.
2. Faulty four-wheel drive switch.
3. Wiring fault.
4. Faulty controller.

Solution:

1. Check that no other error codes are displayed.

   A. If any other error code is displayed, continue with these tests.

   B. If no other error codes are displayed, go to step **2**.
2. Check the **X-374** connector of the four-wheel drive switch (**S-009**) and the **X-064** connector of the control unit (**A-001**).

   Make sure the connectors is connected, not damaged, the pins are in the correct position and that the fit is tight.

   A. if a fault is found, repair or replace as required.

   B. If the connectors are OK, continue to step**3**
3. Check the four-wheel drive switch in **Electronic module - H5 - Switch operation test (55.640)**.

   Turn the ignition key to ON.

   By pressing the switch, d40 must be displayed, by releasing the switch d40 will disappear.

   A. If the display is correct, go to step **4**.

   B. If the display is not correct, go to step **5**.
4. Check the wiring harness connectors in mode **Electronic module - H5 - Switch operation test (55.640)**.

   While still in mode **Electronic module - H5 - Switch operation test (55.640)**

   With the switch released

   wiggle the wiring, the connector **X-374**of the switch **S-009** and the connector **X-064** of the control unit **A-001**

   A. If d40 is displayed, there is a fault repair or replace the wiring harness as necessary.

   B. If d40 is not displayed, download the correct version of the software.

   C. If the fault re--occurs again, remove and replace controller.
5. Check for a short circuit to positive voltage.

   Turn the key to OFF.

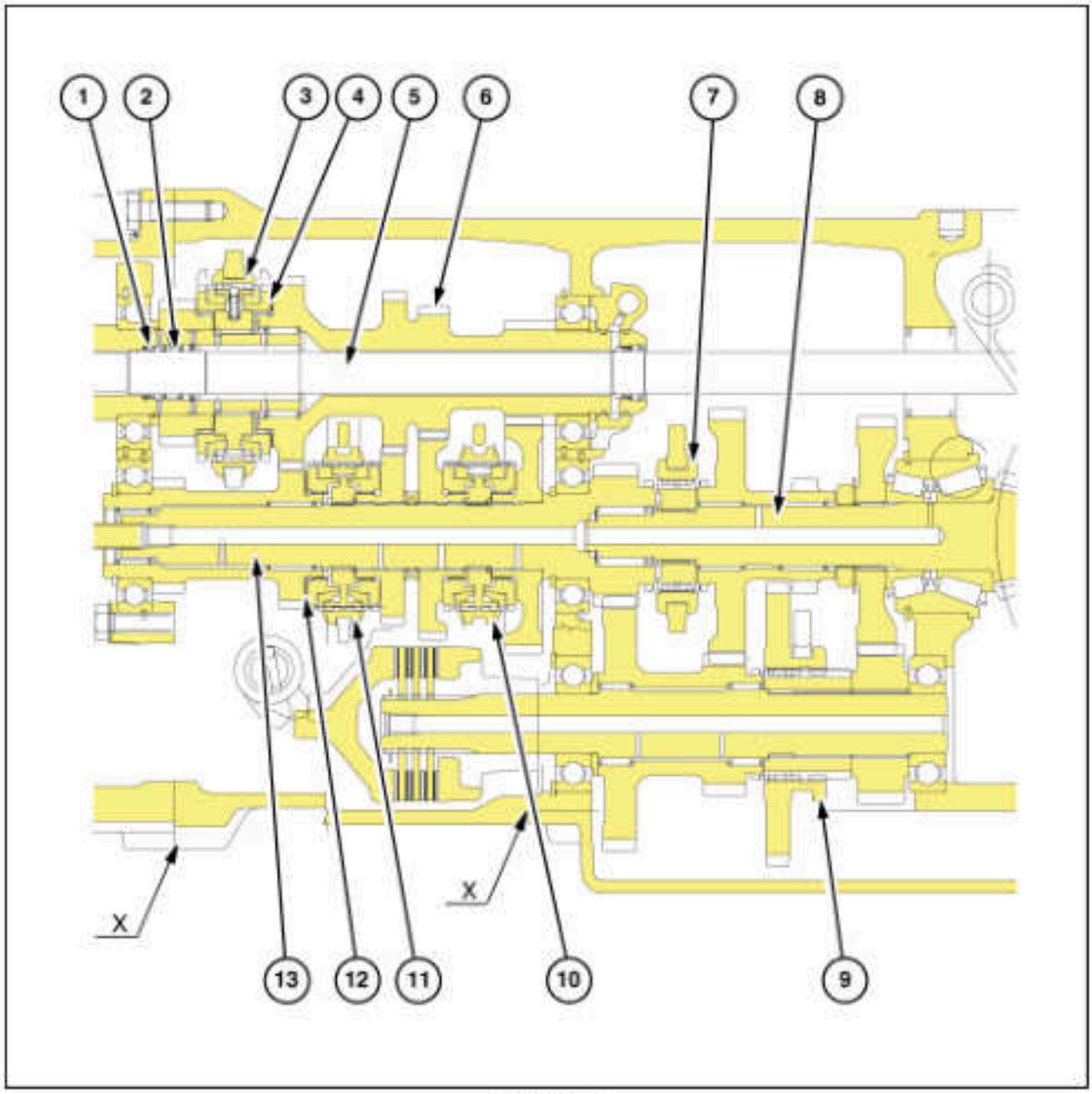
   Disconnect the **X-374** connector of the four-wheel drive switch (**S-009**) and the **X-064** connector of the control unit (**A-001**).

   Turn the ignition key to ON.

   Check between connectors:

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

Transmission internal parts - Sectional view



MDL111F005GB 1

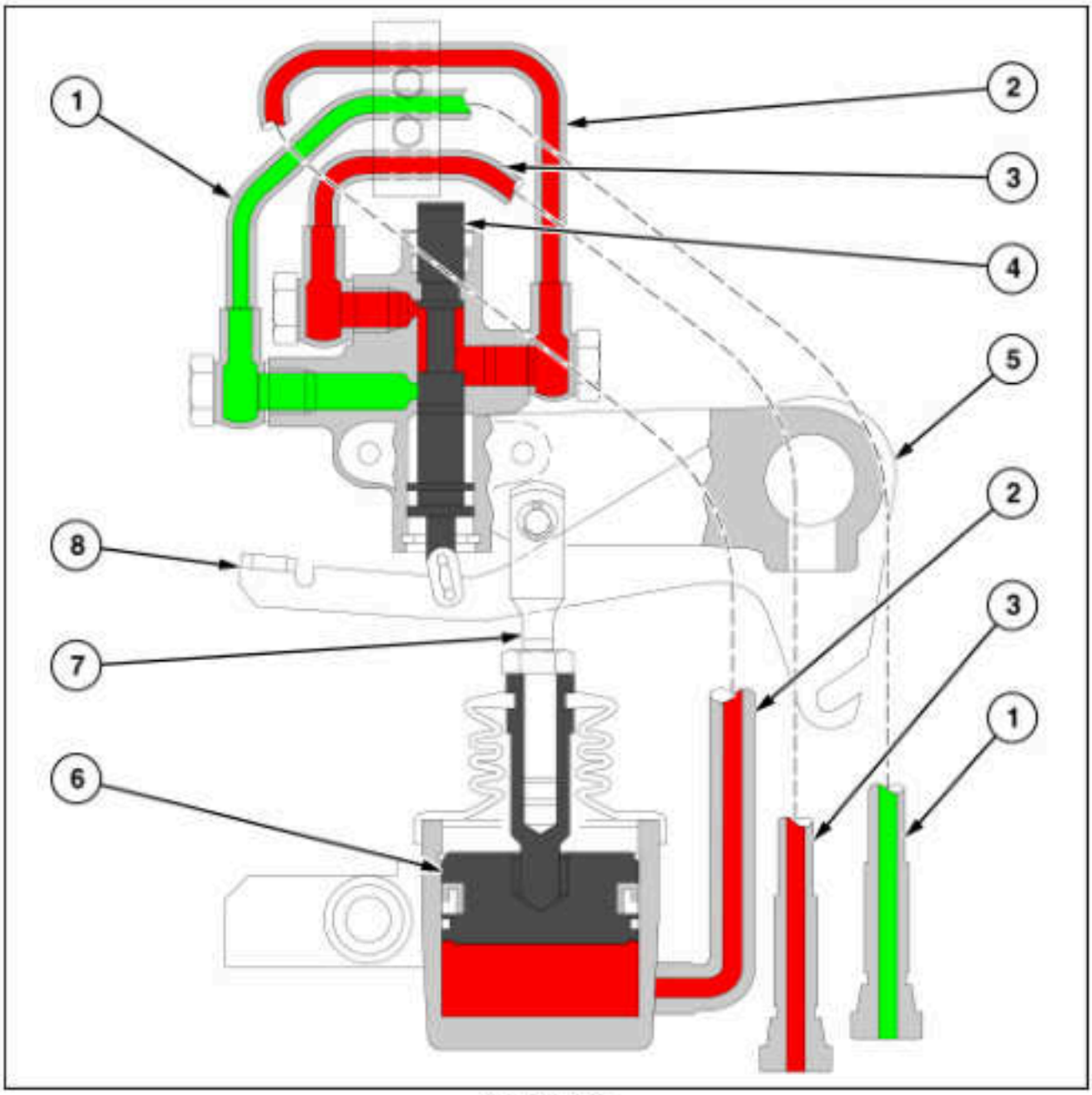
Longitudinal cross-sectional view of gearbox and gear range

1. Seal
2. Power take-off shaft support roller bearings
3. Reverser control synchroniser
4. Gearbox driving gear clearance adjusting thickness
5. Power take-off shaft
6. Gearbox driving gear
7. Selector sleeve for high or medium-low speeds
8. Bevel pinion shaft
9. Selector sleeve for low or medium-high speeds
10. Synchroniser for 1st and 2nd speed
11. Synchroniser for 3rd and 4th speed
12. Gearbox driven shaft gear clearance adjusting thickness
13. Gearbox driven shaft

NOTE: *On assembly apply a bead of sealing compound to the surfaces X as indicated on* ***Transmission drive housing - Reseal (21.114)****.*

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >

8. Lock nut
9. Flexible protective sleeve
10. Piston housing
18. Spring
19. Control valve body

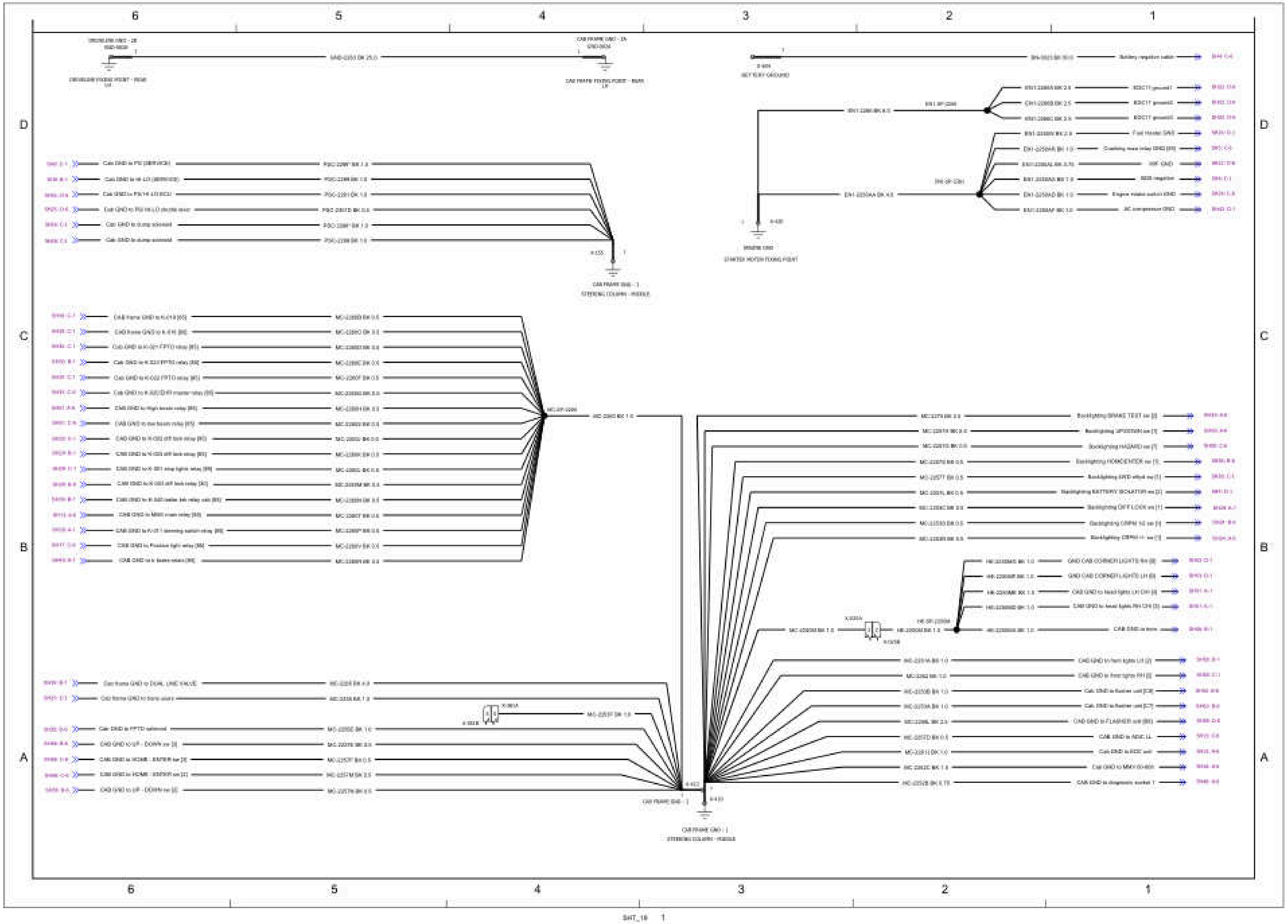


MDU11F007SGC 2

Pressurized oil

Discharge oil

MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.1... Order the manual at mid-west-tech.com >



MidWestTech | New Holland T4.80V, T4.90V, T4.100V, T4.110V, T4.80N, T4.90N, T4.100N, T4.110N Tractor Service Manual | Publication 51526007

Order the manual at mid-west-tech.com >